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Emerging equity markets in Middle Eastern countries

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Abstract:
*Within a broad framework for analyzing portfolio flows to developing **countries**, a study undertakes a comparative **analysis** of equity markets in 6 Middle Eastern **countries** (Egypt, Iran, Jordan, Morocco, Tunisia, and Turkey). The **analysis**, based primarily on a range of quantitative indicators, identifies the principal characteristics of these markets, including relative to international comparators, and examines associated structural features. This, along with an **analysis** of the informational efficiency of selected markets in the region, provides a basis for the subsequent review of policies for enhancing the role of equity markets in the macroeconomy of Middle Eastern **countries** while minimizing associated **risks**.*

Full Text:

SEVERAL DEVELOPING countries succeeded in the first half of the 1990s in attracting considerable external private inflows, thereby potentially providing an important supplement to domestic savings in financing productive investment activities. When compared with other episodes of large private capital flows to developing countries in the last 20 years, the phenomenon differed in one basic respect: the dominant role of foreign portfolio flows as opposed to bank financing. Indeed, the private inflows were part of a broader process of internationalization and integration of capital markets. Markets in many developing countries expanded rapidly, with the combined capitalization of traded equities on the 38 "emerging stock markets" rising from under US$100 billion at end-1983 to over US$1.8 trillion at end-1994.

The process of development of equity markets and their integration with international capital markets is less advanced in most Middle Eastern countries, especially when compared with economies in Latin America and Asia. Yet equity markets can provide an important channel for mobilizing resources--from domestic, regional, and international sources--and allocating them to productive investments. The need to exploit the potential offered by equity markets and minimize associated risks becomes more important as the possibility of downward pressures on development assistance to the capital-scarce countries in the Middle Eastern region increases, as does international competition for foreign direct investment. It is also consistent with the increased emphasis in the region on the private sector as the main engine for investment and growth.

This paper reviews the status and role of equity markets in selected Middle Eastern countries. Following a brief overview of the current phase of private portfolio flows to developing countries, Section II undertakes a comparative analysis of markets in six capital-scarce Middle Eastern countries, based primarily on a range of quantitative indicators. This is followed in Section III by a quantitative analysis of the efficiency of selected markets in the region. This provides a basis for the subsequent review of policies to enhance the role of equity markets in the macroeconomy of Middle Eastern countries while minimizing the associated risks (Section IV). The paper concludes with a summary of the main findings.

I. The Process of Capital Market Internationalization and Developing Countries

The return to voluntary market financing of developing countries in the early 1990s had one important difference from earlier episodes of private capital flows to these countries: while there was some resumption in voluntary bank lending, it was relatively limited. Specifically, voluntary bank lending flows to developing country "market re-entrants" amounted to only US$2.9 billion in 1990-92, compared with US$32 billion in the form of international bond and equity flows (Collyns and others (1993)). The contrast was even more stark for 1993, when voluntary bank loans amounted to only US$0.5 billion in the first half of the year compared with US$14 billion for other flows.

Reflecting these developments, the share of developing countries in total international bond issues in international markets rose from a negligible level in the 1980s to 3 percent in 1990, and to some 12 percent in 1993 and the first half of 1994 (Table 1).(Table 1 omitted) Similarly, the share of developing countries in global equity issuance rose from a negligible level in the 1980s to 16 percent in 1990 and 41 percent in 1993, before declining to 24 percent in the first half of 1994. In terms of contribution to total external capital flows to developing countries, the share of portfolio equity and bond financing rose from 3 percent in 1982-88 to 16 percent in 1992. This share varied considerably among developing country regions, ranging from 29 percent for Central and South American countries to 3 percent for Africa (El-Erian and Kumar (1994)).

In absolute terms, net international equity flows to emerging markets averaged US$16.9 billion per year over the period 1986-93. As Table 2 illustrates, there was a steady and sharp increase throughout this period: net flows rose from US$3.3 billion in 1986 to US$61.2 billion in 1993.(Table 2 omitted) These flows have taken a number of forms and have included direct investor flows to equity markets in developing countries and purchases of developing market equities through pooling vehicles (such as country, regional, and sector-specific mutual funds). They have been supplemented by direct placement of developing country equities on industrial country markets, which increased from US$5 billion in 1991 to nearly US$12 billion in 1993, and for 1994 are estimated at some US$7 billion (IMF (1995)). However, net equity flows began to slow down in the second half of 1994 and recent developments in

Mexico are expected to have contributed to a further marked decline at the end of 1994 and the beginning of 1995.

Geographical analysis of these equity flow data for emerging markets reveals that Asian and Latin American markets accounted for the bulk of the flows, with markets in the Middle Eastern and African regions (included in the "other" category in Table 2) receiving very little inflows. Moreover, it is flows to Asian emerging markets that have recorded a particularly large increase in absolute terms, rising in 1993 to almost double the size of flows to Latin American emerging markets. As noted in the following discussion, the development of equity markets and foreign equity portfolio inflows is a two-way process: as equity markets develop, they facilitate the inflow of external funds, and the inflow of funds in turn stimulates the further development of these markets.

The considerable regional variation is also evident from the analysis of the sources of equity flows. As documented in Table 3, Asian emerging markets accounted for the bulk of equity flows to emerging markets from Japan--97 percent in 1992 and 91 percent in 1993.(Table 3 omitted) By contrast, flows originating from the United States--the largest supplier in absolute terms of equity financing to emerging markets in 1992-93--were less concentrated, with flows from the United States about equally split between Asian and Latin American emerging markets. However, there was considerable variation within these regions. For example, the share of Mexico in total equity flows from the United States to both industrial and developing countries rose from 1 percent in 1990 to almost 5 percent in 1993. By contrast, there was virtually no change in the share of flows to Malaysia and Singapore over this period.

The sharp increase in private flows to developing countries in the first half of the 1990s can be attributed to both "pull factors" in developing countries and "push factors" emanating from industrial country markets. The most important "pull factor" contributing to enhanced profitability of investing in developing country securities was the impact of domestic adjustment and reform policies. Appropriate macroeconomic policies have proved essential not only for the initial phases of market opening and integration but also for minimizing the potential adverse implications of surges and changes in capital flows.

Several other elements may be identified as accounting specifically for the growth in emerging equity markets and the importance of international equity flows. These include structural and regulatory changes in the international investment process and developments in industrial country markets.(1) Overall, there was an increase in expected returns from investing in developing country credit and equity instruments, combined with a decline in the cost of doing so; the latter was also favorably influenced for some time by the "push factor" associated with relatively low returns on investments in industrial countries, the reversal of which, starting in February 1994, contributed to the reduction in flows cited earlier.(2)

The process of capital market growth and internationalization provides developing countries with substantial potential benefits, including a larger pool of capital to finance productive investments, enhancement of their ability to use market-based risk management techniques, and improvements in the financial intermediation process. However, the internationalization of markets also entails important challenges for policymakers. With a more open capital account, the economy becomes more vulnerable to abrupt shifts in investor sentiment. Hence, policy slippages translate more quickly in capital outflows and currency substitution--as demonstrated recently in the case of Mexico. Moreover, developing countries' capital markets may become more sensitive to price instability in other countries' markets--so-called "contagion effects." This was illustrated in 1994 not only by the impact of increasing interest rates in the United States but also by the spillover effects of the Mexican events of December 1994 and

early 1995.

Surges in external capital inflows may also complicate economic management through increased inflationary pressures and an appreciation in the real effective exchange rate, with potential adverse effects on international competitiveness (see Schadler and others (1993)). The associated risks are more pronounced in cases where push-induced flows--and associated "bandwagon effects"--are important and result in "bubbles" (that is, price levels that are not sustainable by the economic fundamentals).

II. Analysis of Equity Markets in Selected Middle Eastern Countries

In order to gain some insights into the development of equity markets in the Middle East, it is useful to consider the status and attributes of a set of six national markets--that is, those in Egypt, Iran, Jordan, Morocco, Tunisia, and Turkey.(3) This set covers relatively active markets (Jordan and Turkey), an established, but less active market (Egypt), and newer ones (Iran, Morocco, and Tunisia). The discussion below first provides general background information and then, using quantitative indicators, compares the equity markets in these countries with other emerging markets.

Some General Features of Middle Eastern Financial Markets

The financial sector in Middle Eastern countries is dominated by commercial banks. The securities markets in these countries are relatively small despite the fact that the region contains some of the developing world's largest institutional investors in international markets. Foreign participation, even in the government bond markets, is limited in most countries. Similarly, there have been few direct placements of Middle Eastern equities on foreign markets. Moreover, the use of market-based risk management instruments by countries in the region has been extremely narrow despite the relatively limited degree of export diversification.

While there are considerable differences across countries in the importance of equity markets, with Jordan and Turkey enjoying thriving markets, the supply of corporate securities remains generally limited both in absolute terms and relative to the size of the economies. As discussed below, this reflects several factors that have constrained the demand for and the supply of equities, including the closed, family-owned nature of many companies in the region. Moreover, in several countries public sector enterprises have continued to play a dominant role in a wide range of economic activities. The number of effectively quoted companies thus has been relatively small and the markets have, in general, remained thin.

As noted earlier, owing to the relatively underdeveloped nature of equity markets, the Middle Eastern region has attracted a disproportionately small share of recent international flows to developing countries. Thus, according to Bates (1994), the Arab countries received only about US$0.2 billion out of the total of some US$52 billion that flowed into developing country equity markets in 1993. The region's share of inflows associated with new issues was also negligible. More broadly, International Finance Corporation data indicate that Arab countries accounted for only about 2 percent of total flows of foreign portfolio and direct investment in developing countries in 1989-92, with the bulk of the Arab country share reflecting foreign direct investment (Hovaguimian (1994)).

While equity markets in countries other than Jordan and Turkey are small, the provision of risk finance and the tradition of market trading are hardly new. In Egypt, for instance, the Alexandria and Cairo stock exchanges are over a century old, and the Cairo stock market was one of the most active in the world in the 1940s. Other countries have also had stock exchanges for several years: an exchange was

set up in Iran in 1966, and in Tunisia in 1969.

Comparative Market Indicators

Before examining the factors that may explain why Middle Eastern markets have in general remained small, and the differences among them, it is worth considering a number of indicators of market activity and performance, and comparing them with other countries. Table 4 provides data on market capitalization of equities for two benchmark years (1983 and 1993).(Table 4 omitted) In 1983, the equity market in Egypt was larger than that in Turkey, as well as several other emerging markets, when judged by capitalization (in U.S. dollar terms) and in relation to GDP. However, by end-1993, while the Egyptian market had increased almost fourfold, other emerging markets, including Turkey, had increased by a factor of 25 or more. It is also noticeable that, at end-1993, the ratio of Jordan's market capitalization to GDP exceeded that in most emerging markets, and was similar to that in some major industrial countries.

The picture looks different when looking at listed companies and value traded. As Table 5 illustrates, the number of listed companies in Egypt increased from 154 to 674, compared with a much smaller increase or even a decline in several other countries.(Table 5 omitted) However, if one considers activity on the market as measured by value traded, Egypt's increase was limited when compared with other markets. Consequently, value traded remained small relative to the number of companies quoted. In the case of Morocco and Tunisia, the average value traded increased, albeit remaining relatively low especially in the case of Tunisia. Trading volume in the Amman Stock Exchange increased sharply from US$19 million in 1978 to US$640 million in 1989 and further to US$1.4 billion in 1993 (the largest in the Arab countries). During the same period, listed companies rose from under 70 to almost 115 (Toukan (1994)).

The interpretation of some of these raw data needs to be qualified with a number of observations. In Egypt, the 674 shares listed include over 400 that are closed companies, with the rest seldom trading. Many companies, including those that are fully owned by state entities, list to benefit from tax advantages. It is estimated that the shares of only about 80 companies actually trade--albeit an increase from 40 in 1983.(4) Market capitalization data, which show the nominal value of all listed shares, should also be interpreted with caution. Excluding listed shares that are not available for trading sharply reduces the total. It has thus been estimated that Egyptian market capitalization of the stocks that trade was probably around US$O.5 billion at end-1992.(5)

Finally, it is worth noting that in both Jordan and Turkey, the market concentration--defined as the share of capitalization held by the ten largest stocks--at around 45 percent, although high compared with industrial country markets, is by no means out of line with market concentration in other emerging markets. Moreover, capitalization concentration has declined over the last few years. There has been an even more significant decline in the share of value traded by the most active stocks, attesting to the increasing breadth and depth of the two markets.

Determinants of Stock Market Development

Consistent with the general analysis of Section I, the absolute and relative development of Middle Eastern equity markets is related to a range of economic, financial, institutional, and legal factors. Market deepening and related international linkages have progressed furthest in the context of sustained implementation of financial sector reforms and, more generally, policies aimed at liberalizing economic activities and reducing financial imbalances. The sustainability of normal financial relations with existing

external creditors, characterized by timely payment of scheduled contractual obligations, has also been an important factor.

Historically, the financial sector in many Middle Eastern countries (especially in the non-oil economies) was characterized by strict controls over rates of returns and administrative allocation of credit through the banking system and public sector specialized financial institutions. In recognition of the adverse impact on the process of financial intermediation--both in the domestic mobilization and allocation of loanable funds and in competition for international funds--several Middle Eastern countries embarked on financial liberalization efforts. Measures included greater interest rate flexibility, reduction of preferential credit facilities, and a move toward indirect monetary control instruments. In some countries, efforts were also directed at deepening domestic capital markets.

The development of equity markets and their internationalization have also been adversely affected by investor concerns regarding structural weaknesses in the legal and regulatory framework. The impact of financial sector reforms that address these aspects has differed among countries owing to two sets of factors. First, varying progress in the implementation of market-enhancing measures such as improvements in trading, reporting, and accounting systems; strengthening of legal procedures; and removal of fiscal distortions discouraging equity financing. Second, varying progress in the broader program of economic and financial liberalization, particularly in the areas of liberalization of regulations governing foreign direct and portfolio investments, including ownership, market access, and repatriation of capital, dividends and profits; privatization of state-owned enterprises; and liberalization of the domestic investment regime, including dismantling of government monopolistic and oligopolistic structures.(6)

The status of financial relations with existing creditors also needs to be considered, given its impact on perceived country risk and portfolio flows. After rescheduling in the late 1970s and early 1980s, Turkey met scheduled debt payments without recourse to debt restructuring, which enhanced the domestic and external private sector's positive perceptions of country transfer risks. Jordan recently concluded a commercial bank package incorporating debt and debt-service reduction elements. Anticipation of the beneficial impact of this package and, more important, the accompanying adjustment and reform policies, were reflected in an increase in the secondary market valuation of Jordan's debt and are expected to facilitate its tapping of international financial markets. Egypt, whose debt is predominantly to official creditors, has completed two of the three stages of debt forgiveness with the Paris Club. Iran has achieved some progress in normalizing its external payments situation through bilateral refinancing arrangements. Finally, in the case of Morocco and Tunisia, external financial relations do not seem to have been the binding constraint on the expansion of equity markets. Thus, both countries have maintained normal payments relations with external creditors in recent years, with Morocco experiencing a sharp increase in secondary market prices.(7)

III. Market Volatility and Informational Efficiency

Having reviewed some general features of Middle Eastern markets, this section addresses specific attributes affecting stock market efficiency. The latter plays an important role in enhancing the contribution of equity markets to countries' economic growth. There are two related issues that are important to the functioning of the emerging equity markets in general, and which are specifically explored below for the more developed of the Middle Eastern equity markets (Jordan and Turkey): the extent of volatility and the information content of prices.

The first issue relates to the question of whether short-term volatility in stock prices is "excessive," in

the sense that it is greater than that in the underlying fundamentals relating to corporate profits, dividend payments, and interest rates. In the case of industrial countries, Shiller (1981) showed that variations in aggregate stock prices appeared to be too large to be justified by the variation in subsequent dividend payments. However, as has been widely recognized, Shiller's tests are joint tests of market efficiency and the correctness of his model of the dividend process. As Marsh and Merton (1986) showed, an alternative model of the dividend process refutes the conclusion that market prices do not represent the best available estimates of appropriately discounted present values of future dividend streams.

There have been few such analyses comparing the movements in fundamentals with stock prices for emerging markets.(8) Instead, the comparison is usually with the volatility of the established industrial country stock markets. To the extent that the emerging markets are more volatile, the reasons are considered to lie in the relative illiquidity in the markets and a more sporadic availability of adequate company information. The excessive volatility, in turn, is thought likely to lead to a weakening of investor confidence, thus discouraging participation of risk-neutral and risk-averse investors and contributing to a vicious cycle.

At first sight, the two Middle Eastern markets differ considerably from each other, with evidence over the last decade showing considerably greater volatility in the Turkish market than in the Jordanian market (Table 6).(Table 6 omitted) The volatility in the Turkish market has also been high when compared with other emerging markets.

A related aspect of volatility is the extent to which it reflects few, large changes in prices in response to domestic or exogenous shocks, rather than a large number of small changes. A particular concern is that large declines in prices in any given period could have significant confidence and wealth effects, and prove destabilizing for the financial system as a whole. To provide some illustrative evidence on this, Table 7 tabulates the probability of price declines of a given magnitude based on price movements over the period 1987-1994.(Table 7 omitted) In the case of Turkey, for instance, there was a probability of 0.20 of observing a decline in the aggregate stock market price index of 10-20 percent in any given month. This is considerably greater than the corresponding probability in Jordan, as well as in other emerging markets.(9) However, as the data for the three major industrial stock markets show, as in the case of the overall measure of volatility, all emerging markets tended to exhibit a higher probability of larger declines. The implications of this for the development of markets are noted in Section IV.

The evidence on volatility gives rise to the second, and related, issue of the information content of prices, and the possibility of speculative bubbles. A bubble exists if the stock price is higher today only because investors believe that the price will be higher tomorrow--that is, when economic fundamentals do not justify such a price (see Stiglitz (1990)). In this situation, prices can keep increasing for considerable lengths of time relative to the levels warranted by fundamentals, only to fall sharply upon abrupt changes in market sentiment. There is a large literature in this area, and the discussion below first briefly notes some of the key issues concerning the related concept of market efficiency, and then presents some empirical evidence for Jordan and Turkey, as well as for some other emerging equity markets.

Efficient Equity Markets

The main issue examined here is the degree to which emerging equity markets are efficient in pricing securities. The market is said to be efficient if it fully and correctly reflects all relevant information in determining security prices.(10) That is, in a free and competitive market, prices of financial securities

should generally reflect all publicly available information and these prices should adjust rapidly to new information. Thus, there are two aspects to market efficiency: the type of information to which the market is reacting, and the speed with which the market reacts to that information. Since, in an efficient market, prices are assumed to reflect all available information at any given time, the current price of an asset would be a good estimate of its intrinsic value owing to competition among market participants.

In an uncertain world, however, the intrinsic value cannot be properly determined. Hence, there will be differences of opinion among market participants as to the value of each share, so that actual prices will wander around the intrinsic value. According to the efficient market hypothesis, however, competition among investors will ensure that these discrepancies are not large enough to be profitably used. In a dynamic economy, intrinsic values can themselves change as a result of new information. If new information is "gradually" made known to market participants, successive price changes will exhibit dependence. However, if the adjustment to new information is "instantaneous," successive price changes will be independent.

Thus, the issue becomes whether successive price changes over the short period exhibit any systematic patterns or whether they are indistinguishable from random walks. The random walk hypothesis is borne out, to varying degrees, in active industrial country markets, indicating that over time only competitive rates of returns are likely to be earned and that prices in such markets adjust instantaneously to new information as soon as it is publicly available.(11) In emerging markets, there may be dependence in prices for several reasons: companies divulge less information to investors compared with that available to investors in industrial countries; the companies are subject to less investment research; and small markets are technically less elaborately organized. In addition, there are other structural and institutional factors: capital markets are fragmented; markets have difficulty in detecting and discriminating among investment opportunities; dichotomy exists in the financial activities between organized and unorganized money markets; and investors may have shorter horizons because of greater political and economic uncertainties.

Moreover, there are many potential and actual imperfections that create inefficiencies even in the most researched and regulated stock exchanges (for example, disinterested shareholders, and information that is not freely available). In emerging markets, the likelihood of these inefficiencies is higher, increasing the probability of share prices being temporally dependent.

The objective of the econometric exercises reported below is to assess whether stock prices in Jordan and Turkey displayed any systematic patterns. The results have implications for portfolio management and the allocative efficiency of securities markets, as well as several other related issues.

Empirical Evidence for Jordan and Turkey

There are three methodological points that should be considered before testing the hypothesis of market efficiency: the level of disaggregation, the time interval over which prices are analyzed, and the standard of comparison.

Because of data limitations, the analysis below uses indices of prices for the stock markets as a whole, rather than data on individual share prices. As a result, the analysis faces limitations that arise in using an aggregative index. For example, such an index may behave more systematically than its components because of the effect of averaging. With regard to the time interval, the ideal would have been high-frequency intra-day data. Since this was not available, daily and weekly data were used. Finally, in order to provide some basis for comparison, the analysis was undertaken for three other countries, in addition

to Jordan and Turkey (namely, Greece, India, and the Philippines). This comparison also allows an assessment of the effect of short-term covariation in the Jordanian and Turkish stock markets on the one hand, and these comparator markets on the other.(12)

The empirical evidence is based on the serial correlation, and on the nonparametric "runs" techniques. The serial correlation analysis tests the linear independence of log price changes. It indicates whether price changes at time t are influenced by price changes occurring k period earlier, where k indicates the lag length. It would be expected that if there is to be any correlation in log price changes, the most likely would be between successive terms, that is, k = 1, rather than with k > 1.

The results of the serial correlation analysis, for k = 1 to 10, for both daily and weekly prices, are provided in Table 9.(Table 9 omitted) For the daily series, the results indicate that for both Jordan and Turkey (as well as the Philippines), the first-order serial correlations are highly significant--that is, there is serial dependence among the day-to-day price changes in the stock markets in these countries, and the random walk model does not hold. With regard to higher-order coefficients, the third, fourth, and sixth order are significant for Jordan, while some higher-order coefficients are also significant for Greece and India. This suggests that not only are successive price changes related but distant lagged changes also exhibit some association. In general, however, for longer lags the coefficients are relatively small, and there is very little pattern in the signs of serial correlations. In the case of weekly data, the pattern is somewhat different. The first-order coefficients are statistically significant only for Greece, but several of the higher-order coefficients are significant for the other countries.

Taken together, both the daily and weekly price series suggest some departures from the random walk hypothesis. It should be emphasized, however, that while a quantitatively small serial correlation coefficient could be highly significant statistically, it may imply dependence that has limited economic significance. Thus, the serial dependence displayed by some of the indices can hardly be used for predicting the future course in a meaningful manner. This is because the proportion of variance in current price changes explained by past price changes is in general quite small. Hence, from the point of view of an investor, dependence of such a low order may not be enough to increase the expected profits, given the transactions costs that can be sizable in some of these markets.

Next, a statistical exercise was undertaken to examine the efficiency hypothesis using "runs" analysis.(13) This is important as it captures the possibility that share prices may be random most of the time but may become serially correlated for varying periods of time, and such dependence may not be detected by serial correlations.(14) Moreover, serial coefficients may be dominated by a few unusual or extreme price changes, so that a tendency toward a coherent pattern of price changes is obscured by one or two instances. Further, the runs tests, nonparametric in nature as they are, do not depend on the finite variance assumption of the price changes.

Formally, under the hypothesis that successive price changes are independent and on the assumption that sample proportions of positive, negative, and no-price changes are unbiased estimates of the population proportions, the expected number of runs of all types can be computed as follows:

(equation 1 omitted)

where M is the expected number of runs, N is the total number of price changes, and n is the number of price changes of each sign. The difference between actual and expected number of runs can conveniently be expressed by a standardized variable Z as follows:

(equation 2 omitted)

where R is the total observed number of runs of all signs, 1/2 is the continuity adjustment, and M and a, are the mean and standard error of the sampling distribution of runs, respectively. For a large N, Z will follow normal distribution with zero mean and unitary variance. Therefore, for testing significance of the difference between observed and expected number of runs, the test statistic employed would be standardized normal variate Z. Since the alternative hypothesis says nothing about the direction of the deviation from a random series, a two-tailed test is applied. The null hypothesis (i.e., randomness hypothesis) is rejected at a 5 percent level of significance in favor of the alternative hypothesis (nonrandomness hypothesis) depending on whether observed values of Z are less than or greater than 1.96.

The results of the runs analysis for both the daily and the weekly data are provided in Table 10.(Table 10 omitted) Columns 1 and 5 in the table indicate the number of times there were positive, negative, or zero changes in prices. Columns 2 and 6 indicate the number of positive, negative, or zero runs, and columns 3 and 7 indicate the total number of runs.(15) The expected values of total runs are given in columns 4 and 8. In the case of Turkey, for example, the expected number of total runs (positive, negative, and zero) for daily data was 142.5, compared with the actual number of runs of 127. The normalized test statistic showed that the null hypothesis of independence of runs could be rejected at the 5 percent level of significance. Similarly, for Jordan, the null hypothesis could be rejected at the 1 percent level. Of the other three countries, the differences between the actual and expected runs were also highly significant for Greece and the Philippines. Thus, with the exception of India, the actual number of runs fell significantly short of the total expected number of runs, implying positive serial correlation.

A comparison of the total number of observed and expected runs for the weekly data series reveals a rather different picture. While for Jordan the null hypothesis is again rejected at the 1 percent level, the difference between the actual and the expected number of runs was not statistically significant for any of the other countries. In sum, the results of the statistical exercises suggest that there are some differences between the operational efficiency of the two most active Middle Eastern equity markets. While the Turkish market exhibits greater price volatility, it also appears less likely to have serial dependence in prices; that is, the behavior of equity prices provides greater support for the weak form of the EMH. These results can be consistent with the increasing depth and liquidity of the Turkish market. However, taking all the statistical results together, the behavior of the Turkish and Jordanian markets is not markedly different from that of a sample of other emerging markets. As discussed below, the broad similarity suggests a number of similar underlying factors impinging on the operational efficiency of emerging equity markets.

IV. Developing and Improving Equity Markets in Middle Eastern Countries

Notwithstanding the relatively limited development of equity markets to date in most Middle Eastern economies, there is increasing recognition among policymakers of their beneficial role in mobilizing and allocating resources in support of growth and development. Specifically, it is increasingly recognized that, given the competition for foreign sources of funding and the limited availability of domestic finance in some countries relative to their developmental needs, equity markets could play an important role in providing capital to productive sectors, as well as facilitating the process of privatization. The experience of other developing countries is encouraging in this regard. It demonstrates that if conditions are right, relatively dormant markets can become sufficiently liquid and functioning quickly, with

considerable further potential. At the same time, the experience highlights the risks of volatility, particularly that associated with market concerns about the sustainability of macroeconomic stability and, more specifically, the external balance and debt dynamics, as well as contagion effects.

There are two broad types of conditions that are important when considering the experience of emerging markets in other regions. First, the macroeconomic environment has to be conducive to the development and growth of private sector enterprise. Second, the structure of equity markets must be strengthened through appropriate policies in the areas of information and accounting mechanisms, market regulation and supervision, property rights, pricing efficiency, and taxation regimes.

Given the considerable economic potential of the Middle East, there would appear to be favorable prospects, a priori, for substantial mobilization of funds from domestic, regional, and external investors. Indeed, not only are there indications of portfolio funds in the hands of industrial country investors that could move into these markets but there is also a significant pool of offshore Middle Eastern savings that could be expected to be reflected in inflows to equity markets in the region. Finally, equity markets could provide the scope for increased trading of Islamic-based financial instruments.

Despite differences among countries in the region, there are indications that several of the factors that contributed to the growth of stock markets in Asia and Latin America are present in the Middle East region. Thus, there have been efforts in several countries in recent years to implement fiscal and monetary sector reform, reduce inflationary pressures, and strengthen external sector performance. Moreover, some countries have experienced significant private capital inflows and reverse currency substitution (for example, Egypt during 1991-94).

It is clear from the earlier analysis that, from a macro perspective, the key factors determining the future evolution of Middle Eastern countries' equity markets and their relation with international capital markets are the domestic macroeconomic policy stance, debt management policies, and the status of external financial relations. These will remain the key issues in influencing investors' perceptions of credit and transfer risk. To this end, appropriate aggregate demand management policies will need to be accompanied by greater emphasis on structural reforms--this with a view to enhancing the Middle Eastern economies' supply responsiveness, reducing their vulnerability to unanticipated exogenous shocks, and improving their social sector performance.

It is also evident from the analysis that what is needed, in addition, are policies aimed specifically at appropriately enhancing the demand and supply of equities. Even if there are few western-style share offerings, the stock markets could receive a boost from a privatization process whose raison d'etre lies in the need to address public sector inefficiencies and progress toward more of a level playing field for public and private sector activities. Indeed, as illustrated in other countries (especially in Latin America), the successful implementation of privatization programs may be viewed as having a two-way casual relationship with equity market development--that is, both facilitating and benefiting from the growth of domestic equity markets and their internationalization .

Other types of policies would entail improving the efficiency of intermediation, reducing tax-induced distortions, improving the flow of information, and strengthening market surveillance.(16) Basically, policy needs to be directed at establishing the conditions for clear property rights, having effective settlement and custody systems, putting in place transparent trading conditions and a more level playing field among financial instruments, and providing for appropriate capital and dividend repatriation.

To this end, company laws and stock market regulations need to be clarified and overhauled in several

of the countries. The share transfer procedures also need to be simplified. In several countries, steps are needed to reduce distortions that arise from the differentiated tax treatment of financial instruments. Also, factors affecting participation of nonresidents need to be reviewed comprehensively.(17)

In Egypt, as part of the economic reform program, a comprehensive Capital Market Law was promulgated in June 1992 and became effective in April 1993. This law has revamped the legal framework for the securities market, facilitating the participation of foreign investors and allowing competition in the provision and pricing of market services. To increase investor confidence, provisions have been made prohibiting insider trading, cornering trading practices, and price manipulations. Companies issuing new securities to the public are also required to apply international accounting standards. The regulatory framework and arbitration procedures have been improved, with the Capital Market Authority having been established as an independent authority entrusted with matters related to the development and regulation of the securities market. There are also considerable operational improvements under way in both the primary and the secondary markets.

In both Morocco and Tunisia, given the governments' commitment to privatization, the supply of securities is likely to increase significantly in the near future. In both countries, the regulatory regime has also been changed to attract both domestic and foreign capital to the stock market. In Tunisia in particular, existing private companies gain tax advantages if they list, the capital gains tax has been abolished, and dividends are free of income tax.(18)

Equity flows to emerging markets in the Arab countries will also be influenced by the geopolitical conditions in the Middle Eastern region. Specifically, foreign capital inflows may be expected to respond positively to the achievement of a comprehensive, just, and durable peace in the region. The economic rationale for this is based on three main elements.(19) First, a comprehensive, just, and durable peace provides the possibility over time of a simultaneous cross-country reduction in military expenditure. With the potential for countries in the region achieving the appropriate level of security at a lower resource cost, the freed resources may be directed to more productive activities--thus contributing to a further improvement in the economic environment. Second, such a comprehensive peace would also impact favorably on country risk through the resulting reduction in the geopolitical risk component. Finally, these direct benefits may be expected to enhance the potential for joint ventures and development of regional infrastructure--factors that could contribute to an expansion in foreign trade and investment.

A concurrent strengthening of the banking market is essential to avoid a lopsided development of the financial sector, notwithstanding the relatively more developed nature of this market. Indeed, a sound and competitive banking system plays an important role in fostering the development of an efficient capital market. Accordingly, policy efforts to develop capital markets should not be at the expense of strengthening banking systems. Interestingly, several of the measures required for the latter--especially those affecting the enabling environment--are also essential for capital market deepening and broadening.

V. Concluding Remarks

Given the external financing environment facing developing countries in the 1990s, equity markets may be expected to play an important role in mobilizing resources in support of growth and development efforts. Indeed, several developing countries in Latin America and Asia have succeeded in the last few years in improving the operation of their domestic equity markets and attracting funds in the form of capital repatriation by residents and external portfolio investments. In addition to direct benefits

accruing from a larger pool of investment capital, this process has a number of indirect benefits, including opening up a larger set of financial facilities (including market-based risk management instruments), improving the operation of price signals, and enhancing the disciplinary role of market forces at both the micro- and macroeconomic levels. The process also entails risks that require a sustained strengthening of economic policy, prudent debt management, and appropriate prudential regulation and supervision.

There is increased recognition in Middle Eastern countries of the need to significantly broaden domestic financial markets and improve the internationalization of those markets. This comes at a time of pressures on aid flows, increased international competition for private capital, and an uncertain environment for the region's terms of trade. The historical experiences of countries in the region and other developing countries suggest that there is a clear and strong potential for market development and internationalization . Indeed, the qualitative and quantitative analyses of equity markets point to a number of similarities with other emerging markets. Moreover, as the Middle Eastern markets develop and broaden, the speed with which they react to new information will increase, thereby enhancing their efficiency and, more generally, increasing investor confidence and strengthening the role of the markets in the mobilization and allocation of funds.

Middle Eastern countries' success in enhancing the role of markets in support of their economies' growth and development efforts depends on four key factors internal to these economies--factors that also help minimize, albeit not eliminate, the risks of disruptive capital flows. First, their success in reducing perceptions of country risk through the sustained implementation of adjustment and reform policies. Second, maintaining progress in strengthening the external payments regime, including normalizing relations with creditors in the context of prudent debt management. Third, specific investment opportunities associated with the implementation of privatization programs in the region and progress in achieving a comprehensive, just, and durable peace. And finally, the authorities' ability to address institutional and legal rigidities inhibiting market deepening and, more generally, the balanced development of financial markets.

1 See E1-Erian (1992) and (1994).

2 The push factors are analyzed in Calvo, Leiderman, and Reinhart (1993).

3 Other active regional equity markets include Bahrain, Israel, Kuwait, and Oman. Although there are no formal stock markets in Saudi Arabia and the United Arab Emirates, equity transactions take place through the banking system. The establishment of equity markets is under consideration in Lebanon, Sudan, and Syria.

4 Fag El-Nour (1994).

5 According to Morland (1993), the unadjusted market capitalization amounted to US$2.6 billion at end-1992.

6 A review of Arab countries' structural reform policies may be found in El-Erian and Tareq (1993).

7 Morocco's last bank debt rescheduling dates back to September 1990; it last rescheduled its official bilateral debt in 1992 under the auspices of the Paris Club. Tunisia has not rescheduled in recent years.

8 The exception is a forthcoming study by Cashin and McDermott (1995), which analyzes the

informational efficiency of emerging markets using a capital asset pricing model (CAPM).

9 Although the analysis is based on monthly data, results using weekly data were qualitatively similar.

10 This issue has been discussed extensively in the financial market literature. For a summary of the key propositions, see Fama (1976) and Fama and French (1988).

11 There is a large empirical literature in this area. The basic conclusion of empirical studies is that while there are clearly instances of departures from the efficient markets hypothesis (EMH) in industrial country markets, in general these markets are highly efficient in utilizing new information in a speedy manner. See, for example, Malkiel (1991).

12 Greece was chosen mainly because of its similarity with Turkey in terms of market capitalization in 1983 and 1992. The Philippines also had similar capitalization, while India was chosen to provide a comparison with a market with a significantly larger capitalization. As Table 8 reveals, over the last five years both Jordan and Turkey have had slightly positive or even negative correlation with these emerging markets. Similar weak positive or even negative correlations of the Turkish and the Jordanian markets with the industrial country markets also attest to the benefits of portfolio diversification by industrial country investors.

13 A runs test is performed by comparing the actual number of runs (defined as a sequence of price changes of the same sign preceded and followed by price changes of different signs) with the expected number of runs on the assumption that price changes are independent. If the observed runs are not significantly different from the expected number of runs, then the inference is that successive price changes are independent.

14 Statistical tests based on the theory of runs ignore the magnitude of the elements in a time series and observe only their sins. That is, they are concerned with the direction of changes in a given time series. See Baillie and McMahon (1989).

15 The runs were calculated up to a lag of 10. For instance, a positive run of lag k indicates a sequence of k positive price changes preceded and succeeded by either negative or zero price change.

16 Several of these issues are discussed in Abisourour (1994). The specific cases of Egypt and Jordan are discussed in Fag El-Nour (1994) and Toukan (1994), respectively.

17 Bates (1994) classifies the markets in the Middle East as follows: Egypt, Iran, Israel, Jordan, and Turkey as open to foreigners; Bahrain, Oman, and United Arab Emirates as "restricted markets"; and Kuwait and Saudi Arabia as closed markets. His analysis does not cover the Maghreb countries.

18 Morland (1993).

19 El-Naggar and El-Erian (1993).

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* Mohamed A. El-Erian, Deputy Director of the Middle Eastern Department, is a graduate of Cambridge University and received his doctorate from Oxford University. Manmohan S. Kumar, Senior Economist in the Research Department, is a graduate of the London School of Economics and received his doctorate from Cambridge University, where he also taught before joining the IMF. Earlier versions of this paper were presented to the Economic Research Forum workshop on Financial Market Development and the World Bank's conference on Stock Markets, Corporate Finance and Economic Growth. The authors are grateful for the helpful comments received from Klaus Enders, Stanley Fischer, Mohsin Khan, Edouard Maciejewski, Ahsan Mansur, Donald Mathieson, Saleh Nsouli, and Michael Spencer, and participants at the above cited workshop and conference.
